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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,407	01/18/2006	Anthony William Goodyer	6501-1046	4840

466 7590 08/09/2007
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EXAMINER

ZIMMERMANN, JOHN P

ART UNIT	PAPER NUMBER
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2861

MAIL DATE	DELIVERY MODE
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08/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/527,407

Applicant(s)

GOODYER, ANTHONY WILLIAM

Examiner

John P. Zimmermann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11 March 2005.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1 & 3** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Togano et al.**, (GB 2142579 A).

- a. As related to independent **claim 1**, Togano et al. teach an apparatus adapted to be associated with a printer including a conveyor (Togano et al. – Figure 1, Reference

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#3 & #5, shown below) for transporting paper or other substrate (Toganoh et al. – Figure 1, Reference #11, shown below and Description, Page 2, Line 25) from a printing station (Toganoh et al. – Figure 1, Reference #4, shown below) to a treatment station (Toganoh et al. Figure 1, Reference #9, shown below) characterized in that the conveyor terminates before the treatment station and including means to transfer the paper or substrate to the treatment station (Toganoh et al. – Figure 1, Reference #7 & #8, shown, below) where it is irradiated with UV light sufficiently for the ink used in the printer to be cured (Toganoh et al. Figure 1, Reference #9, shown below; Abstract, and Description, Page 2, Lines 20-21) and means to remove the paper or substrate (Toganoh et al. – Figure 1, Reference #8, shown below).

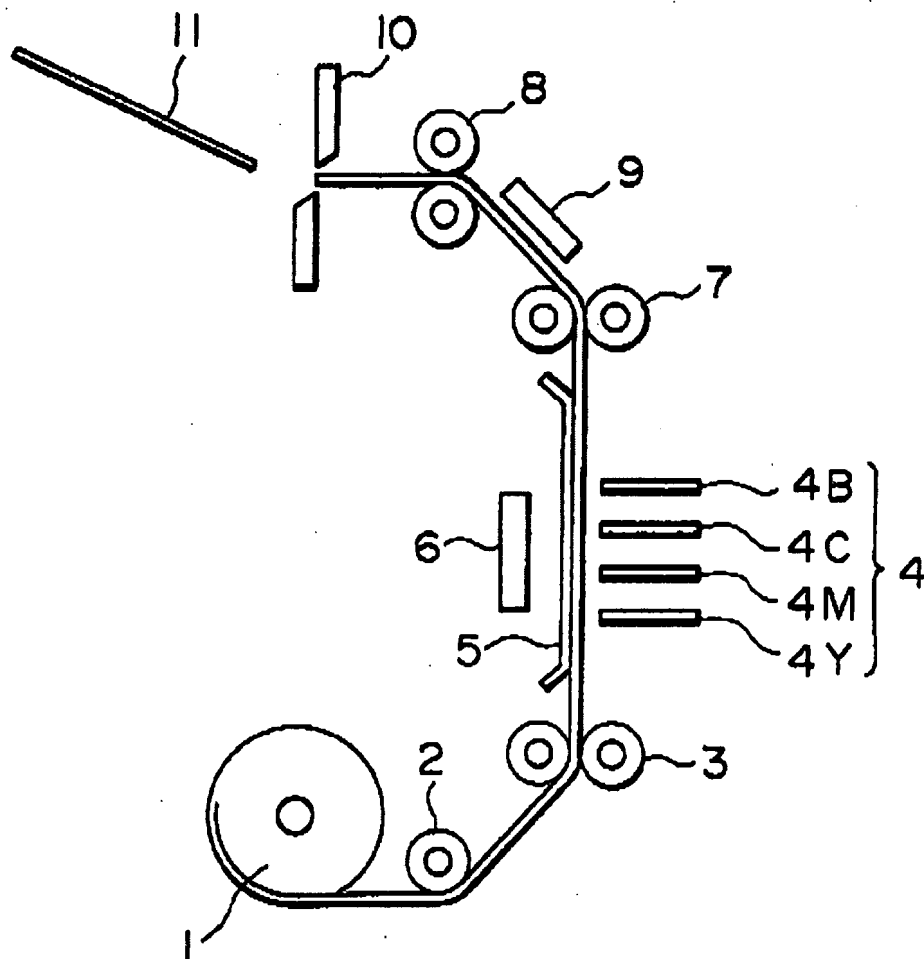


FIG. 1

b. As related to dependent **claim 3**, Toganoh et al. teach nip rollers are positioned at the exit of the treatment station (Toganoh et al. – Figure 1, Reference #8, shown above), which serve to release the paper from the conveyor and to draw paper into position.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 4 & 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Togano et al.**, (GB 2142579 A) as applied to **claims 1 & 3** above, and further in view of **Ylitalo et al.**, (US 6,543,890 B1) and **Bar et al.**, (US 2003/0020795 A1).

a. As related to dependent **claim 4**, Togano et al. teach the limitations of **claim 1** for the reasons above. Additionally, applicant yields that it is typical in the art to include suitable sensors and circuits to monitor the UV fixing station for elevated temperature situations and thereby prevent overheating of the conveyance means (Present Application – Background Art, Page 2, Lines 14-17). Meanwhile, Ylitalo et al. teach an apparatus for curing of ink used in inkjet printing which includes a means of activating and deactivating [i.e. precisely controlling the amount of radiation that reaches the medium]

the UV lamps to prevent overheating (Ylitalo et al. – Title; Abstract; and Summary, Column 3, Lines 14-20). Finally, Bar et al. teach a device for curing ink-jet prints with one or more thermosensors [i.e. temperature sensor] used to control the UV lamp [i.e. radiation device] (Bar et al. – Title and Description, Paragraphs 25 & 27).

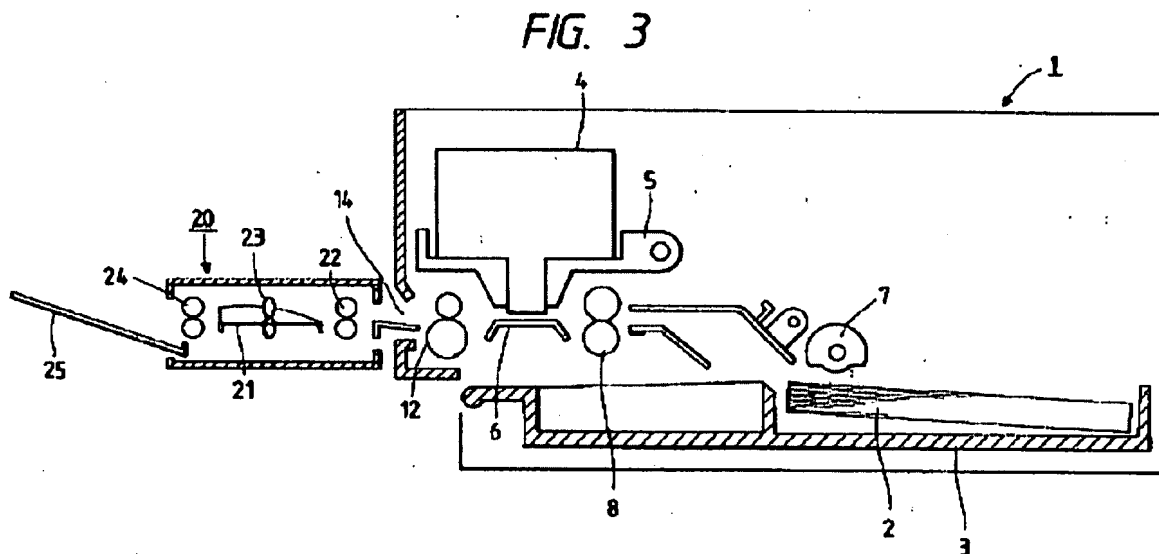
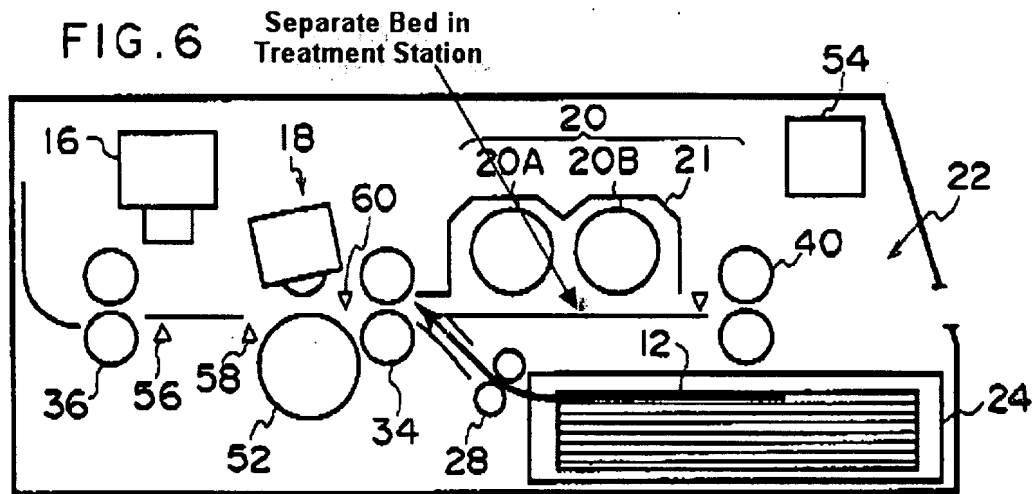
b. As related to further dependent **claim 7**, Toganoh et al. teach the limitations of **claim 3** for the reasons above. Additionally, applicant yields that it is typical in the art to include suitable sensors and circuits to monitor the UV fixing station for elevated temperature situations and thereby prevent overheating of the conveyance means (Present Application – Background Art, Page 2, Lines 14-17). Meanwhile, Ylitalo et al. teach an apparatus for curing of ink used in inkjet printing which includes a means of activating and deactivating [i.e. precisely controlling the amount of radiation that reaches the medium) the UV lamps to prevent overheating (Ylitalo et al. – Title; Abstract; and Summary, Column 3, Lines 14-20). Finally, Bar et al. teach a device for curing ink-jet prints with one or more thermosensors [i.e. temperature sensor] used to control the UV lamp [i.e. radiation device] (Bar et al. – Title and Description, Paragraphs 25 & 27).

Given the same field of endeavor, specifically an ink curing apparatus associated with an ink-jet recording apparatus, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the UV curing apparatus and apparatus for ink-jet recording as taught by Toganoh et al. with the specific use of temperature sensors and other controlling means as taught by Ylitalo et al. and Bar et al., in an effort to provide means of control (Bar et al. – Description, Paragraph 27), prevention of overheating (Ylitalo et al. – Summary, Column 3, Lines 19-20), and to provide the typical sensor and circuits needed to prevent damage to the medium in a way

that does not add to the capital cost or adversely affect the compact design of UV lamps used in inkjet devices (Ylitalo et al. – Background, Column 2, Lines 46-51).

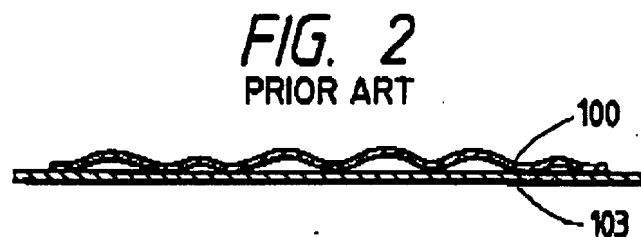
8. **Claims 2 & 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Togano et al.**, (GB 2142579 A) as applied to **claim 1** above, and further in view of **Nakanishi et al.**, (US 2002/0063769 A1) and **Ebata**, (US 5,485,189 A).

a. As related to dependent **claim 2**, Togano et al. teach the limitations of **claim 1** for the reasons above. Additionally, Togano et al. teach a vacuum bed which, when the paper or substrate is released from the conveyor, receives the paper or substrate into the desired UV irradiation position (Togano et al. – Figure 1, Reference #5 & #6, shown below and Description, Page 1, Lines 43-45). Togano et al. *does not* specifically teach that the treatment station has a separate vacuum bed. *However*, both Nakanishi et al. and Ebata teach the treatment station having a separate bed (Nakanishi et al. – Figure 6, Reference #20 and Arrow, shown below) with means of applying tension to the recording medium to position it on the bed in the treatment station (Ebata – Figure 3, Reference #20 & #21 and Summary, Column 3, Lines 40-41, 55-56 & 61-62).



b. As related to further dependent **claim 5**, the previous combination of Toganoh et al., Nakanishi et al., and Ebata remains as applied to **claim 2**, additionally, each of the mentioned references teach nip rollers are positioned at the exit of the treatment station (Toganoh et al. – Figure 1, Reference #8, shown previously, Nakanishi et al. – Figure 6, Reference #40, shown above, and Ebata – Figure #3, Reference #24, shown above) which serve to release the paper from the conveyor and to draw paper into position.

Given the same field of endeavor, specifically an ink curing apparatus associated with an ink-jet recording apparatus, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the UV curing apparatus and apparatus for ink-jet recording with a vacuum bed for holding the recording medium as taught by Toganoh et al. with the specific fixing apparatus with recording medium holding bed, separately detachable from the printing device as taught by Nakanishi et al. and the specific fixing apparatus with separate recording medium holding bed as taught by Ebata, in an effort to provide an image recording apparatus with separate stations in a compact design with a simple structure (Nakanishi et al. – Summary Paragraph 8) while preventing the wave phenomenon of the recording media (Ebata – Figure 2, shown below and Summary, Column 3, Lines 40-41).



9. **Claims 6 & 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Toganoh et al.** in view of **Nakanishi et al.** and **Ebata**, as applied to **claims 2 & 5** above, and in further view of **Ylitalo et al.**, (US 6,543,890 B1) and **Bar et al.**, (US 2003/0020795 A1).

The previous combination of Toganoh et al., Nakanishi et al., and Ebata remains as applied above. Additionally, applicant yields that it is typical in the art to include suitable sensors and circuits to monitor the UV fixing station for elevated temperature situations and thereby prevent overheating of the conveyance means (Present Application – Background Art, Page 2, Lines 14-17). Meanwhile, Ylitalo et al. teach an apparatus for

curing of ink used in inkjet printing which includes a means of activating and deactivating [i.e. precisely controlling the amount of radiation that reaches the medium) the UV lamps to prevent overheating (Ylitalo et al. – Title; Abstract; and Summary, Column 3, Lines 14-20). Finally, Bar et al. teach a device for curing ink-jet prints with one or more thermosensors [i.e. temperature sensor] used to control the UV lamp [i.e. radiation device] (Bar et al. – Title and Description, Paragraphs 25 & 27). Given the same field of endeavor, specifically an ink curing apparatus associated with an ink-jet recording apparatus, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the UV curing apparatus and apparatus for ink-jet recording with a vacuum bed for holding the recording medium and fixing apparatus with recording medium holding bed, separately detachable from the printing device as taught by the combination of Toganoh et al, Nakanishi et al., and Ebata, with the specific use of temperature sensors and other controlling means as taught by Ylitalo et al. and Bar et al., in an effort to provide means of control (Bar et al. – Description, Paragraph 27), prevention of overheating (Ylitalo et al. – Summary, Column 3, Lines 19-20), and to provide the typical sensor and circuits needed to prevent damage to the medium in a way that does not add to the capital cost or adversely affect the compact design of UV lamps used in inkjet devices (Ylitalo et al. – Background, Column 2, Lines 46-51).

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Conwell et al. (US 6,350,071 B1) teach an on-demand printer with UV curing apparatus separately attached. Matsumoto et al. (US 6,523,948 B2) teach an inkjet printer with UV curable ink, and a UV emitter controlled by a control unit. Ylitalo (US 6,550,906 B2) teaches an inkjet printing apparatus with UV radiation curing and turning on/off the UV source based on the temperature of the substrate and the ink. Uehara et al. (US 2003/0068571 A1) teach an inkjet recording device and a fixing device separated from the media conveyor with its temperature controlled by a temperature sensor. Okazaki et al. (US 2003/0174188 A1) teach an inkjet printer with a post-processing device, which includes UV radiation projection for fixing the ink. Codos (US 6,755,518 B2) teaches an inkjet printer with a media conveyor which is a vacuum bed type conveyor including vacuum bed in the treatment station as well as UV curing heads and the heat generated by them, includes methods of dispersing heat. Andreassen (WO 9944829 A) teaches an inkjet printing device with printing inks cured by UV light.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Zimmermann whose telephone number is 571-270-3049. The examiner can normally be reached on Monday - Thursday, 7:00am - 5:00pm.

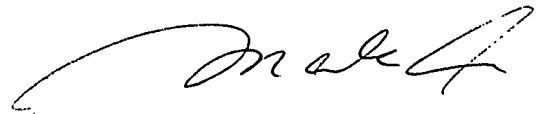
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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MATTHEW LUU
SUPERVISORY PATENT EXAMINER